Message

From: Strynar, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=5A9910D5B38E471497BD875FD329A20A-STRYNAR, MARK]
Sent: 10/16/2019 5:42:57 PM
To: Leung, Lam-Wing H [LAM.H.LEUNG-1@chemours.com]
Subject: RE: ?RE: ?RE: ?RE: Standards

Sure thing.

Mark

Dr. Mark J. Strynar
Physical Scientist
US EPA
National Exposure Research Laboratory
919-541-3706
Strynar.mark@epa.gov

From: Leung, Lam-Wing H <LAM.H.LEUNG-1@chemours.com>
Sent: Wednesday, October 16, 2019 1:41 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Re: ?RE: ?RE: ?RE: Standards

Can I call you after 3pm? It'll be brief. Please let me know.

Get Outlook for iOS

From: Strynar, Mark <Strynar.Mark@epa.gov>
Sent: Wednesday, October 16, 2019 1:32:47 PM
To: Leung, Lam-Wing H <LAM.H.LEUNG-1@chemours.com>
Subject: ?RE: ?RE: ?RE: Standards

External email. Confirm links and attachments before opening.

Yes I have time today after 3 PM until 4:30. Tomorrow I am busy 10-11 AM, 12:30 to 1:30 and 3:00 to 3:30.

Sorry I thought you wanted next week.

Mark

From: Leung, Lam-Wing H <LAM.H.LEUNG-1@chemours.com>
Sent: Wednesday, October 16, 2019 10:03 AM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: ?RE: ?RE: Standards

Hi Mark,

Any chance you'll have sometime today or tomorrow Ex. 6 Personal Privacy (PP) Please let me know. Thanks.

Best,
Lam

From: Strynar, Mark [mailto:Strynar.Mark@epa.gov]
Sent: Wednesday, October 16, 2019 9:36 AM
To: Leung, Lam-Wing H <LAM.H.LEUNG-1@chemours.com>
Subject: ?RE: ?RE: Standards

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Lam,

Free to chat when you want next week. I am free next Monday and Tuesday before lunch.

Mark

From: Leung, Lam-Wing H <LAM.H.LEUNG-1@chemours.com>
Sent: Friday, October 11, 2019 4:52 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: FW: ?RE: Standards

Hi Mark,

I'd like to get your thoughts on this and please let me know if you'll have sometime next week to discuss. Thanks.

Cheers,
Lam

From: Sivertsen, Scott [mailto:Sivertsen.Scott@epa.gov]
Sent: Friday, October 11, 2019 12:18 PM
To: Garon, Kevin P <Kevin.Garon@chemours.com>; Martin, Allen D <Allen.Martin@ncdenr.gov>; Leung, Lam-Wing H <LAM.H.LEUNG-1@chemours.com>
Subject: ?RE: Standards

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Again repeating what I have previously stated:

Multiple literature references cite the need for the presence of an organic solvent to keep PFAS in solution. This is not exclusive to PFAS; in general, environmental methods require that sample containers be solvent-rinsed to capture the residual fraction which may be associated with container surfaces. As the degree of organic nature of the analyte increases, the effect is greater. Short chain PFAS may be less impacted by surface activity.

The design of the stability study, even though using labeled HFPO-DA as an internal standard, does not seem to not have the ability to discern this potential bias, unless the instrument is calibrated ***once*** and all analyses are performed ***using the same initial calibration*** over the 6 to 12 month duration of the study. That is impractical; it's unrealistic to expect instrumentation to maintain a calibration over that time period.

If concentrations in calibration standards decrease from surface activity, and spiked sample concentrations decrease at the same rate, unity is approached and no change in concentration will be observed. No matter which calibration

technique is used (ISTD, ESTD, ID) the result will be the same. If calibration standards change at rates differing from the spiked samples, a change will be observed, however, it will not be possible for the change to be accurately quantitated.

Until the use of water as a solvent to prepare standards is shown to be acceptable, my opinion remains that water is not an acceptable solvent for standard preparation. The only way I know to achieve that is to compare, over time, water based solutions against those having adequate organic content and known to solvate the compounds without degradation.

Basic methanol (using KOH to eliminate ester formation) and 95% acetonitrile-5% water are solvents which have shown acceptability for standard preparation. I'm sure there are others.

I've previously put forward the idea, and still maintain, that Chemours should contract the production of byproducts standards discovered from their research. In my opinion, companies which specialize in the synthesis, purification, stability and quality testing are in a better position to carry out the multiple facets required to produce analytical standards.

****

Scott Sivertsen
Chemist, Region 4 US EPA
980 College Station Road
Athens, GA 30605

706/355-8869 (office)
706/355-8857 (FAX)
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From: Garon, Kevin P <Kevin.Garon@chemours.com>
Sent: Friday, October 11, 2019 10:50 AM
To: Martin, Allen D <Allen.Martin@ncdenr.gov>; Leung, Lam-Wing H <LAM.H.LEUNG-1@chemours.com>; Sivertsen, Scott <Sivertsen.Scott@epa.gov>
Subject: Standards

Hello Allen and Scott,
In my last meeting a few weeks back with Ms. Linda Culpepper, she indicated that she was still expecting Chemours to prepare and provide standards in a solvent. I believe Lam responded to both of you gentlemen and discussed on a teleconference our concern with making standards in a solvent due to the possibility/probability of some of the compounds changing due to esterification (and I have just exhausted my knowledge of chemistry so forgive me if I am not being clear).

What are your thoughts on this? We are a bit stumped on how to proceed. Lam is still working on the stabilization study to indicate the stability of our standards in water. I just am not sure what or if we need to be doing something as Ms. Culpepper has indicated to me that the request to prepare standards in a solvent still stands.

Thanks,
Kevin

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